

OCEAN BOTTOM RELIEF

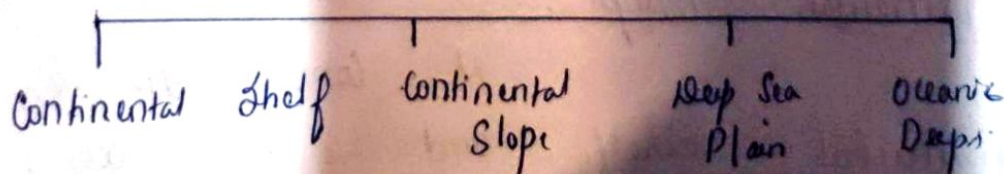
About $\frac{3}{4}$ th of the earth is covered by Hydrosphere. The hydrosphere is divided into oceans, inland seas, small enclosed seas, Bays etc.

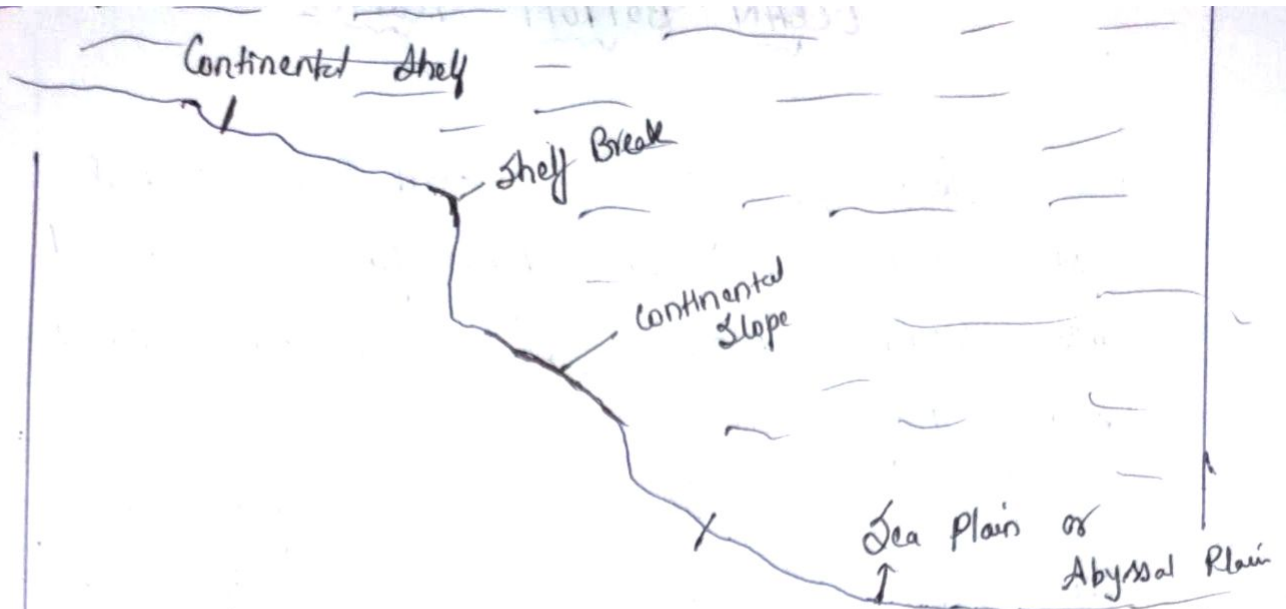
The ocean are confined to the great depression of the earth's outer layer. The geographers have divided the oceanic part of the earth into five oceans :-

- (i) The Pacific ocean
- (ii) The Atlantic ocean
- (iii) The Indian
- (iv) Southern ocean
- (v) The Arctic ocean.

* DIVISION OF OCEAN FLOORS :-

The ocean floor can be divided into four major divisions





① Continental Shelf :-

It is the extended margin of each continent occupied by relatively shallow sea or gulf. It is shallowest part of the ocean, having slope equal to or more than 1° or even less. The shelf ends at a very steep slope called the shelf break. The average width of continental shelves is about 80 km. Siberian Shelf is the largest in the Arctic ocean in the world. In India, the eastern coast have longest shelf.

② Continental Slope :-

It connects the continental shelf and the ocean basin. The gradient of the slope

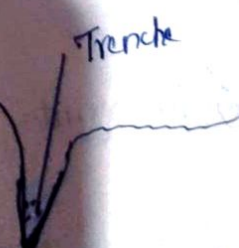
region varies between $2-5^\circ$. The depth of the slope varies between 200 - 3000 m. Canyon and trenches observed in this region.

(iii) Deep Sea Plain:-

These are gently sloping areas of the ocean basin. The depth varies between 3000 and 6000 m. These plains are covered with fine-grained sediments like clay and silt.

(iv) Oceanic Deep or Trenches:-

These areas are the deepest parts of the oceans. The trenches are relatively steep sided, narrow basins. They occur at the bases of continental slopes and are associated with active volcanoes and strong earthquakes.



* MINOR RELIEF FEATURES :-

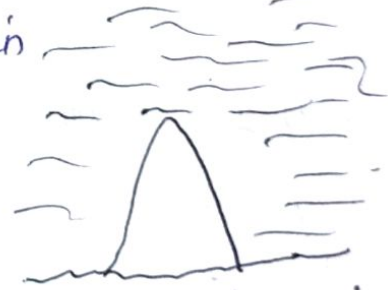
① Mid-oceanic Ridges :-

It is composed of two chains of mountains separated by a large depression. The mountain ranges can have peak as high as 2500m. For e.g. - Iceland.

② Sea Mount :-

It is a mountain with pointed summits, rising from sea floor that doesn't reach the surface of the ocean. Seamounts are volcanic in origin.

For e.g. :- The Emperor Seamount, an extension of the Hawaiian Island.



③ Submarine Canyons :-

These are very deep valleys, some comparable to the Grand Canyon of the Colorado river. For e.g. - Hudson Canyon.

④ Guyots:

It is a flat topped seamount. They show evidence of gradual subsidence through stages to become flat topped submerged mountain



⑤ Atoll:-

These are low islands found in the tropical oceans consisting of coral reef surrounding a central depression. It may be a part of sea (lagoon)